National Semiconductor Corporation

2900 Semiconductor Drive, Santa Clara, California 95051

T NELSON SYS CONS
BOX 3
SCHODOYS MOUNTAIN NJ 07870

Contents: Technical information requested by addressee.

Note: "Xanadu Information System," "Xanadu Hypertext Network," "Xanadu Information Terminal," "Lightning Literature," and the "Eternal-Flaming-X Symbol" are trade and service marks for products and services offered by Theodor H. Nelson.

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PROSPECTIVE EXTERNALS OF THE XANADU™ HYPERTEXT NETWORK

A DISCUSSION PROSPECTUS

The following specifications are presented for general comment prior to being frozen for implementation.

The Xanadu Hypertext Network has been designed as a universal publication system to make written material of all kinds instantly available electronically.

The principal purposes of this enterprise are to provide a universal system for electronic publication and to assure the rapid availability of writings in general and of our literary and historical heritage. We further intend to assure standardization, and most especially to set a level of performance from which no one may accidentally or purposely retreat.

Readers, authors, researchers, browsers and publishers will all find certain of their needs met. The network is intended as well to be a powerful environment for private and unguided study of any subject. It is also intended as a general archival repository, and can function directly as a teleconferencing and electronic mail system.

CONVENTION 1. TYPES OF DOCUMENT

A document consists of any text and/or links that someone wishes to store.

Thus the Gettysburg Address is a document; "Jabberwocky" is a document; and a set of links between them is a separate document.

A document may also consist of changes to another document. Thus the modified Gettysburg Address published in MAD by Doodles Weaver may be thought of as two documents: the original, and the changes.

The integrity of each document is maintained by these separations: derivative documents are permanently defined in terms of the originals and the changes. Evolutionary continuity is unambiguous and storage space is saved.

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CONVENTION 2. OWNERSHIP, CONTROL, ROYALTY

Ancient and public-domain documents have no owner. Otherwise, each document has an owner who controls it and receives royalties for its use.

The owner determines whether a document is to be private or not.

The owner does not determine whether a reader may create links to it or modified versions of it.

The owner receives a royalty based upon use: especially, a royalty rate based upon the length of time his document is on a reader's screen. If it is on a screen for one hour, he receives a full hour's royalty. If it is on the screen for half an hour, or on half the screen for one hour, he receives half the hour's royalty.

If a modified document is read, the original owner and the modifier split the royalty in proportion to the size of the changes, as determined automatically.

A uniform royalty for all authors and documents is desirable, since this means there is no pretext for the system's keeping track of who reads what.

(Note that "on the screen," above, may for practical purposes be interpreted as in the final buffer area.)

A one-time royalty is to be paid if a paper copy is made.

CONVENTION 3. LEVELS OF PUBLICATION

A document may be private or published. A private document may be read and linked-to only by the owner and his associates. A published document is available to anyone, and may be read and linked-to by anyone.

The name and author of a published document are listed in various directories, which are themselves published documents.

A published document may not be withdrawn from publication. Its owner may publish a modified version, with a request not to use the previous version, but the previous version remains published.

A document at an intermediate level, the open document, is generally available but not listed in directories.

CONVENTION 4. TYPES OF LINKAGE

Links are made by individuals as pathways for the reader's exploration; thus they are parts or modifications of the actual text. Links may be created within or between documents.

Any type of linkage is possible in principle. We are presently concentrating on three of basically literary origin:

- ¶ The jump-link. As symbolized by the asterisk, this generalizes the footnote.
- ¶ The quote-window. This allows one document to quote another, with the reader at once free to peruse the document of origin.
- ¶ Collateration. This sets parts of two documents in correspondence to one another, permitting recognition and close study of the corresponding parts.

Collateration between successor versions of a document is automatic.

CONVENTION 5. FUNDING AND ACCESS

An hourly base rate is charged to all users.

This includes the cost of fetching all materials and of all editing operations, and the hourly royalty to be divided among authors.

It also includes the placing in archival storage of all that a normal user can type in one hour.

This archival storage is comparatively slow to retrieve, involving minutes rather than seconds.

Storage at a more accessible level, or at more than one main station, involves additional storage charges. Thus a "publisher" is someone who pays for the rapid accessibility of materials and benefits from their use along with the author.

SYSTEM INTERNALS

These external specifications are made possible only by certain technical developments which are for the present proprietary and secret. A number of radical discoveries in the field of computer indexing and retrieval render it possible to offer these services within seconds on configurations of present-day equipment, even as the number of documents and service requests expands to astronomical figures.

OTHER MATTERS

The network will not monitor who reads what or who writes what. Movement of text in the network will be under the dispersed control of user requests, with no central list of what is currently being read.

The network is to be a distributed system of storage and local services, with high-speed lines connecting the storage centers. Each main station is to have a number of functions:

- ¶ Local service to local user terminals, honoring local requests or passing them on to other main stations.
- ¶ Local storage of materials owned by local users and of materials having high usage at this locality.
- ¶ Pass-through of requests and materials from other main stations, to local users or other main stations.
- ¶ Assigned storage: duties of archival and repository storage as assigned within the system.

The Xanadu Information System ™ consists of the Xanadu Hypertext Network used in conjunction with an official Xanadu Information Terminal ™ . This and other trademarks will be available under nominal license fees to vendors offering compatible equipment, as precisely defined under specifications to be released at a later time and subject to phased change.

Studies are underway as to the best feasible organization for both system security and general economic incentive. Dispersed private-sector financing is foreseen, with probable use of the franchising mechanism. While the profit motive is necessarily involved—the profit motives of many firms and individuals must be enlisted—the ultimate goal is plain, idealistic and simple.

OTHER ISSUES

A number of thorny issues, and their relation to these designs, remain to be discussed. These include system-level encryptions, libel, copyright infringement, "national security," hardening of the archives against war or disaster, and the general issue-cluster relating to privacy, withdrawability and the financing of archival keepage.

Your comments are invited.

TED NELSON
PROJECT XANADU
BOX 128
SWARTHMORE, PA 19081

We regret that there is little opportunity to answer correspondence. If there is sufficient interest, a convention may be held in 1978 to discuss these matters. If you would come, please so indicate.

Marlene, this is the
2 page Summary
for 25th talk
Tokyo

TED NELSON STUDIOS • 3020 BRIDGEWAY Suite 295 • SAUSALITO CA 94965 • Fax 415/ 332-0136

SCANNED 17.11.26

A SEMINAR ON FILM, LITERATURE AND COMPUTER NETWORK SERVICES

with

Theodor Holm Nelson

Project Xanadu, Autodesk, Inc. and Ted Nelson Studios

Who could have expected today's world of computer multimedia? Who could have anticipated today's world of personal computers and electronic publishing?

At least one man did. Ted Nelson was a filmmaker and writer who foresaw, in 1960, a world of hundreds of millions of personal computers connected to a great publishing repository of all the world's writings, films, music, and other creations of the arts and sciences, arranged in new branching forms, and ready for instant delivery through telecommunications.

Since that time he has worked continually toward this goal. He coined the words *hypertext* and *hypermedia*, now used throughout the world, to refer to the new interactive writings and movies on the computer screen. And he has continually reminded us that computer software is an extension of movies and literature, not something intrinsically new.

The world of hundreds of millions of personal computers is becoming a reality. Soon, branching computer media will be delivered interactively to customers through such channels as ISDN, another step in the direction of this vision.

It is important to understand the nature of the interactive media. Everyone sees how they are *different* from what has come before; it is important also to understand how they are *the same as* what has come before. In this seminar, Mr. Nelson will show how computer media relate to film and literature, and what this means for network delivery services.

Film. A movie is a system of presentations on a screen which affect the mind and heart of the viewer. Computer media are presentations on a screen which affect the mind and heart of the

viewer, *and with which the viewer may interact.* Thus they are films, all of film technique is relevant to their production, and filmic skill and talent are the best background for people who want to create them. The presentational qualities and "production values" of an interactive production need to be under the control of a single talented director, not delegated to specialists. (We are presently in a software era comparable to the period before the motion-picture director was invented.) The plan of Ted Nelson Studios is to bring film talent to the design of interactive media.

Design and delivery issues.

There is no limit to desirable production values or interactive power. Presentations must not be locked into the screen systems or bandwidth of a given time. Screen systems must be separated from the data delivered, to be upgraded and changed in view and visualization.

Literature. A document is an information package created by someone; literature is a system of interconnected documents. The great system of literature consists of all the world's interconnected documents.

Therefore the principal issue in computer media is how to provide an interactive delivery system for all the world's documents.

Design and delivery issues.

Open hypertext and hypermedia publishing. How allow new interconnections to be added to the literature by new authors throughout the population?

Design of the production. The organizing forms of linear media-- especially the book-- rely on sequence. Authors, editors-- the designers of hypertext-- must find new nonlinear structures and clarifying visualizations. Example: magazine layouts.

Freedom of the Press. Throughout history there have been political battles over the right to publish. These will increase in the electronic era, in dangerous new forms.

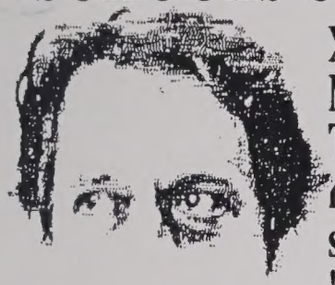
Copyright and re-use. Everyone agrees that copyright is necessary for motivation of publishers and artists, but that it makes the many desirable forms of re-use difficult. Nelson's principal idea is *transclusive publishing*, that is, where one publisher or author may quote on-line materials without needing to communicate with the original publisher of the materials. The second publisher need only place in the new material a *transclusion pointer*, directing the automatic purchase of the quoted materials from the original on-line publication, with automatic royalty to that original publisher.

The plan of Nelson's Project Xanadu™ is to create a universal digital repository service with fine-grain linking, transclusion and demand delivery available to all.

TED NELSON SEMINARS, 3020 Bridgeway #295 Sausalito CA 94965

Bulk Rate
U.S. Postage
PAID
GMS

THERE ARE JUST THREE MAJOR SCHOOLS OF SOFTWARE DESIGN:



Xerox PARC (disconnected windows and Metaphors), Media Lab ("trust us") and Ted Nelson, who has been designing interactive software for personal computers since 1960, and who coined the terms "hypertext" and "hypermedia" before 1965.

The other views you can hear in any grocery line. But Ted's you can only hear from him-- and how long will he be around, or this accessible? **Does he still know something you don't?** Possibly.

Scanned 17.12.07
ARCHIVE

TED NELSON WORKSHOPS
Fall 1993.

See Other Side.

CINEMA OF THE MIND: The Design of Interactive Software Virtuality. THE REAL BASICS OF INTERACTIVE SOFTWARE. Not what they think. To be given twice.

And at Pop Prices--

WORLD ENOUGH: A Most Inspiring Autobiographical Lecture. The one-man show of 1992 now in one evening, highlighting the amazing interconnections of this unusual story.

THE TED NELSON NEWSLETTER. *Surprise!* After twelve years of hope and heartbreak, Ted has taken the name "Xanadu" back. Xanadu is now whatever Ted says it is-- and Ted is free to operate on his own once again. Xanadu will be reborn as the

See Other Side.

ORDER FORM. Mail or fax to:

Ted Nelson Seminars, 3020 Bridgeway #295, Sausalito CA 94965
Fax 415/332-0136 Tel.415/331-4422

YES! Sign me up for Seminars:

Cinema of the Mind. 10 am- 5 pm.

☐ Saturday, August 21, 1993 $145 ($95 before August 14).

☐ Thursday, October 14, 1993, $245 ($195 before September 15).

World Enough in One Evening. 8 pm.

☐ Thursday, August 19, 1993: ___ seats ☐$30 ☐$15. ☐ Saturday, October 16, 1993: ___ seats ☐$30 ☐$15.

Name, Address _____

Phone _____ Fax _____ Email _____

Visa/MC & Expiration date (checks also acceptable) _____

Signature for Credit Card _____ ☐ *Can't attend, but hey-- put me on the mailing list.*

TSB p1 d19

THE TED NELSON NEWSLETTER, 93.7.21 (cont. from other side)

same publishing system always planned, but now nicknamed *Xanadu Light*, since it doesn't use the lamented super-innovative software that Autodesk backed. As always, the new Xanadu will permit royalty publishing on networks and open hypermedia publishing (free linkage and quotation among documents without red tape). Xanadu Light is being implemented using conventional database software turned inside-out to support the Xanadu publishing model.

The contracts, which extend existing copyright law, are essentially the same for publishing with Xanadu Light as they were before. Revolution and the manifest destiny of literature? Or just a good way to sell documents on networks? Contact us for further information.

Xanadu is always the main thing. But much goes on--

Ted's autobiography *World Enough*, based on the one-man show, is coming. We'll be taking orders.

The movie Ted started last year, "Silicon Valley Story," is on hold, but a preview was made, featuring Stewart Brand and Douglas Engelbart (playing Ted's father). The all-star cast who've agreed to appear in the feature version inludes Marvin Minsky, Danny Hillis, Jaron Lanier, John Draper, Timothy Leary.

Working in Hi-8 on the preview was fabulous. The pieces came together quickly on the Avid editing system (below). The plan to shoot in 16mm is now shelved; lightweight video has much greater payoff, especially since it can so easily be edited and reworked on the Avid setup.

MEANWHILE, Ted is deeply intertwingled with Marlene Mallicoat, and still living on the Sand Barge in the houseboat world of Sausalito. Marlene is running an unusual business: renting out the wonderful video-editing setup Ted bought to support his hobby of movie-making. It's an Avid® Media Composer, now the standard of the movie industry. But this one is a low-budget configuration, available at bargain rates in a nice editing room.

The setup also does QuickTime conversion and is great for pulling together interactive productions. (We prefer MovieWorks to Macromind Director--easier, and no hassle on distributing.) For rental information on the Avid and hands-on multimedia production facilities, contact Marlene at Desktop Hollywood, 415/ 331-9007.

TED NELSON WORKSHOPS, Fall 1993.

All events to be held in or near San Rafael, California (Marin County).

CINEMA OF THE MIND: The Design of Interactive Software Virtuality. To be given twice in 1993, Saturday 21 August and Thursday 14 October, 10 am to 5 pm.

Software is not about "functionality" and "interfaces." That's how engineers think. Software is about how the **user** thinks and feels, the *seeming* of the interactive world. "Virtuality"-- a dictionary word for centuries-- is what we see, feel and think about, the seeming of things. Designing *virtualities* is what software is really about. And that makes it a branch of--

MOVIE-MAKING! Yes, friends, if you want to affect the heart and the mind of the viewer, you'd better look where they already know how. You need to know all the techniques of film.

And **CONCEPTUAL STRUCTURE** is at the center of virtuality: the world the user thinks is there, the constructs we make up. Why do we go on imitating paper? (And why are text systems all linear? Why can't you move text sideways, out of the way, as well as up and down?) We can build better constructs, but not if we allow ourselves to be tied down to "metaphors."

At the heart of this approach is Ted's model of *General Thematics*, his new system of tools for building and reworking ideas and constructs. We'll look at examples of new constructs built with them. A totally different perspective on all software.

"I get my best ideas from misunderstanding Ted."
-- Paul Saffo, Institute for the Future

WORLD ENOUGH: A Most Inspiring Autobiographical Lecture (One-Night Version). Thursday, August 19 and Saturday, October 16, 8 pm. Theatrical setting.

This is the legendary one-man show of 1992, now condensed to one session, but still with the many surprising interconnections, wacky anecdotes, and deep conceptual revelations..

COMING ATTRACTIONS, winter and spring:

QUANTUM HYPERSPACE™ AND THE WIND-UP CROSSWORD PUZZLE™. (For programmers and software companies looking for powerful new designs, this presents Nelson's ZigZag™ Personal Software Kit & Dimensia™ Component Programming System. (By special arrangement and nondisclosure agreement only. Licenses to program and sell additional.) Prerequisite: **Cinema of the Mind.**

XANADU™: STATE OF THE DREAM: Still the World Publishing Repository™ of the future for tomorrow's Point-and-Click Universe™. The painful story, the heavy software still under construction elsewhere, and the new plan for Xanadu Light™. And do you fit in as software entrepreneur, author, publisher service provider, or Generalist Reader and Viewer?

VIRTUALITY WORKSHOPS ON: Interactive Media; Audio Systems, Text Systems, PDAs, the Macintosh. Prerequisite: **Cinema of the Mind.**

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